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N. A. C. A. BULLETIN

Vol. XXII, No. 15 April 1, 1941

IN TWO SECTIONS

Section I

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EDITORIAL DEPARTMENT NOTE

Perhaps no part of the accounting routine has undergone so great a change in recent years as that dealing with payroll accounting. The great increase in clerical work made necessary by Social Security and Wage and Hour laws has forced accountants to give thoughtful consideration to ways and means of standardizing and simplifying procedures, applying mechanical equipment and eliminating unnecessary recopying of basic information wherever possible. As a result, there has been a considerable improvement in payroll accounting methods and numerous ingenious cost saving procedures have been developed. The first article in this issue of the *Bulletin* is a description of one such method. The second article also deals with payroll accounting methods—in this case utilizing tabulating equipment—but in addition illustrates how payroll methods can be utilized to provide the detailed information needed for good control of direct labor cost variances.

The author of our first article, William L. Totten, is a native Pennsylvanian who began his accounting education with the Scranton Lackawanna College and continued, first with the Extension Division and then the Resident School of the Wharton School of the University of Pennsylvania. During the period from 1926 to 1929, Mr. Totten had extensive experience in payroll accounting in the Payroll Department of the Hudson Coal Co. of Scranton. For the next nine years he was employed by the public accounting firm of Balch, Funk & Co. of Philadelphia, and during this period obtained a great deal of practical experience in cost accounting and system installation. Since 1938, he has been associated with the public accounting firm of Stover, Butler, Murphy & Newman of Syracuse. Mr. Totten is at present serving as Director of Membership for our Syracuse Chapter.

Harry C. Nichols, author of our second article, received his grade and high school education in his native Bristol (Conn.). Following graduation from high school in 1923, he entered the New Business Department of the Phoenix Mutual Life Insurance Co., moving the next year to the Actuarial Department of the Aetna Life Insurance Co. He deserted the insurance field in 1925 to serve four years with the U. S. Army, and for the following five years was associated in business with his father. Since 1933, Mr. Nichols has been associated with the Arrow-Hart & Hegeman Electric Co. of Hartford in various capacities. At the present his time is devoted principally to the control of labor variances and related problems of cost accounting.

Articles published in the *Bulletin* present many different viewpoints. In publishing them the Association is not sponsoring the views expressed, but is endeavoring to provide for its members material which will be helpful and stimulating. Constructive comments are welcomed and will be published in the Forum Section of the *Bulletin*.

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APRIL 1, 1941

SIMPLIFIED PAYROLL PROCEDURE AND LABOR COST DISTRIBUTION

By William L. Totten, Accountant

Stover, Butler, Murphy & Newman, Syracuse. N. Y.

Introduction

The accounting for labor in any manufacturing plant has two major objectives: (1) the accumulation of the payroll, that is, the calculation of the amount due each employee, together with other pertinent data required by social security legislation; and (2) the distribution of labor costs over the manufactured products.

The importance of practicability cannot be emphasized too strongly in cost and accounting procedure. The results obtained in this respect, together with the simplicity of operation, have proved so successful in the following case study that this procedure has been adopted by several other concerns with the same satisfactory results.

The rapid increase in employment brought about by defense and war contracts has resulted in a greater volume of office clerical work required in many types of industry. This increase of clerical detail originates from the types of records maintained. That is, original and basic information may be copied to a second record and sometimes to a third record before the desired results are obtained. The system outlined herein is based on one major principal, i.e. to use original records for all detail, such detail to be summarized and controlled through the use of totals.

The experience records of the firms which have adopted this system or a modified version thereof, shows that one competent calculator operator can handle the daily time tickets for 150 to 200 employees. This includes the figuring of the daily payroll and the distribution of the payroll to the various jobs involved.

You will notice that the daily time report used to accumulate the necessary information under this plan is divided into two parts: the first part for payroll accumulation purposes, and the second part for cost distribution purposes. This time report is shown as Exhibit 1.

DAILY TIME REPORT

Form No. 5

JAN 7 8.0 | JAN 7 12.0 | JAN 7 13.0 | JAN 7 17.0

NAME John Jones NO. 146

REGULAR TIME IN | OUT | IN | OUT — OVER TIME IN | OUT | IN | OUT

BASE RATE	HOURS	PAYROLL
1.00 hr		
HOURS WORKED	8	8 00
OVERTIME PREMIUM		
TOTAL EARNINGS	8	8 00

Clock No.	Job No.	Blue Print No.	Tool No.	Operation	Quan.		Elapsed	Cost	Clock Stamp
						S			
						F			
Clock No.	Job No.	Blue Print No.	Tool No.	Operation	Quan.		Elapsed	Cost	Clock Stamp
						S			
						F			
Clock No.	Job No.	Blue Print No.	Tool No.	Operation	Quan.		Elapsed	Cost	Clock Stamp
						S			
						F			
Clock No.	Job No.	Blue Print No.	Tool No.	Operation	Quan.		Elapsed	Cost	Clock Stamp
						S			
						F			
Clock No.	Job No.	Blue Print No.	Tool No.	Operation	Quan.		Elapsed	Cost	Clock Stamp
						S			
						F			
Clock No.	Job No.	Blue Print No.	Tool No.	Operation	Quan.		Elapsed	Cost	Clock Stamp
						S			
						F			
Clock No.	Job No.	Blue Print No.	Tool No.	Operation	Quan.		Elapsed	Cost	Clock Stamp
						S			
						F			

EXHIBIT 1

Use of Job Time Records

The use of this ticket dispenses with the old and familiar weekly time card and the time clock that is usually found just inside the employees' entrance. Small automatic electric job recorders are

used instead and these recorders are located in various places throughout the factory so as to be convenient to the greatest number of employees. These job recorders are equipped with twenty-four hour dials, set at zero at 12:00 o'clock midnight. The time stamped will correspond with standard time until 1:00 o'clock which will be shown as 13:00 o'clock, while 2:00 o'clock will register as 14:00 o'clock and so on, up to 12:00 o'clock midnight which will register as 24:00 o'clock. By the use of such a clock the elapsed time may be calculated by direct subtraction. Therefore, if an employee begins work at 8:00 A.M., he will take a blank time card and insert it in the job recorder in such a way that there will be printed in the first section marked "in" under regular time, the month, day, hour and tenth of an hour.

Up to this point there has been little change from the system used by many companies. The most notable changes are that the employee does not have to look in a rack for his card but merely takes a blank card and records his time; second, the employee must be ready to start work, i.e. he has changed his street clothes and made such other personal adjustments as may be necessary before he starts work. This lost time is, therefore, on the man's own time. Likewise, when the employee checks out at the end of the day he will check out when he leaves his department. Under the old system the employee did not check out until he was ready to leave the plant. Here, again, is a saving that would otherwise be lost due to washing up, etc. This saving may only amount to five minutes in the morning, five minutes punching out at noon, five minutes punching in at 1:00 o'clock, and five minutes at night, making twenty minutes a day for five days a week, which would result in almost two hours a week saving per employee.

Completing the Payroll Section

The employee, after having recorded the time he was ready to start working on his job, will next write his name and clock number in the spaces provided. At this point it may be well to mention that each employee should be cautioned to be sure to write his name and number on his daily time ticket, as this ticket represents his due bill for wages earned, and if a ticket cannot be identified it will be necessary for him to establish the fact that he was actually working the particular day for which a ticket is missing.

Furthermore, this establishes a safeguard against the misuse of this ticket by another employee.

Some concerns request their employees to punch "in" and "out" at noon time. If this is a necessary procedure the next two spaces under regular time have been provided for this purpose. The fourth space marked "out" is to record the quitting time of the employee. Should it be required that the employee work overtime, then the next section marked "overtime" will be used to record the additional time worked.

For the purpose of illustration let us assume that the employee's card exhibited was the record for the day of January 7. It will be noticed that this employee checked in at 8:00 o'clock and checked out at 12:00 o'clock. These two job recorder printings indicate that this employee was employed from 8:00 o'clock to 12:00 o'clock, or an elapsed time of four hours. If we now look at the next recorded time, January 7—13:00 o'clock, it will be noticed that one hour has elapsed which would correspond to his lunch hour. If we next look at the fourth section we will find that it indicates a time of 17:00 o'clock or, if we calculate this in our normal system of time, it would indicate that the hour was 5:00 o'clock and the elapsed time four hours; this time added to the four hours worked in the morning gives a total of eight hours during which the employee was in the plant.

Each night upon leaving the plant, the employee will leave his ticket in a place provided for it, and a clerk from the office will collect these tickets.

Accumulating and Summarizing Daily Records

The payroll clerk will extend the hours worked from the elapsed time as indicated by the job recorder printing. The base rate may or may not be recorded in the space provided. It has been found that sometimes the writing of the base rate on each card consumes too much time and is therefore omitted. However, it is believed that the time consumed to record the base rate will more than be offset by having it available for future reference.

If we refer to our time card it will be noticed that the total elapsed time was eight hours. This time multiplied by the base rate will give the gross earnings of the employee for the day.

These daily cards are then filed in a drawer back of an index card bearing the employee's number. The current daily cards are filed behind the previous day's cards which will place the cards in daily sequence as shown in Exhibit 2.

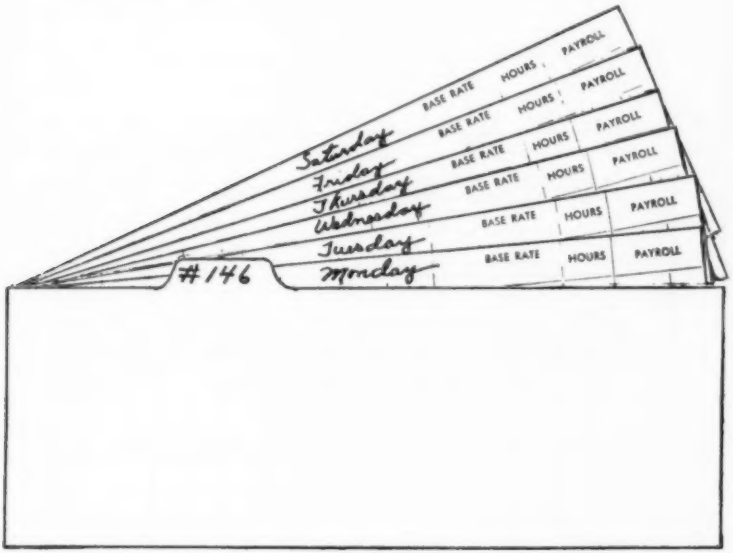


EXHIBIT 2

At the end of a payroll week the daily cards are removed from this file and a small summary ticket is stapled to the upper left hand corner of the daily payroll cards in such a manner as to attach them all together. The summary ticket and its placement on the group of daily payroll cards is shown in Exhibit 3.

The payroll clerk next totals the hours worked and the earnings for the number of days the employee worked. This information is recorded on a weekly summary ticket. If, for example, the employee worked only forty hours during the week, no overtime would be payable under the wage and hour law. However, if the total hours worked amounted to fifty, this weekly summary ticket would show fifty hours and the wages earned for fifty straight

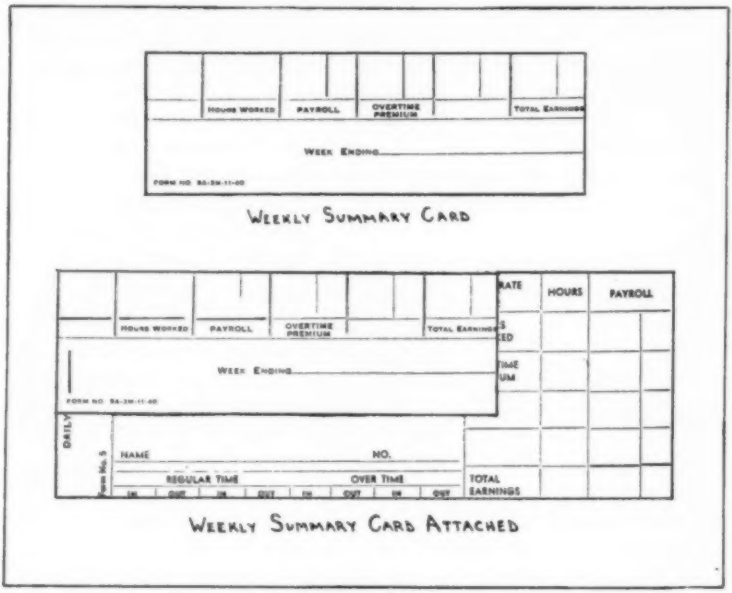


EXHIBIT 3

hours. The half time due as a premium for working over forty hours would be entered under a separate heading marked "Overtime Premium." The total payroll for hours worked, plus any overtime premium, would give the total gross earnings of the employee.

The Pay Envelope and Summary Card

At the time of stapling the weekly summary ticket to the daily time cards, a payroll envelope, previously addressographed with the employees' name and number, will be inserted in such a manner that when the total hours worked, payroll and premium payroll, together with the gross payroll, are recorded on this ticket, a registration by carbon surface will be made on the payroll envelope. This is shown in Exhibit 4.

This pay envelope is then completed by recording the Social Security deduction and any other items that require withholding and

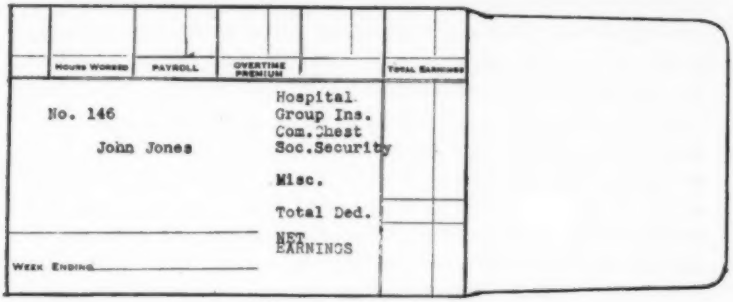


EXHIBIT 4

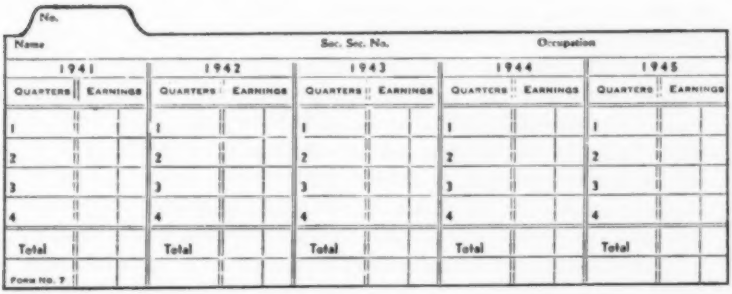


EXHIBIT 5 (FACE)

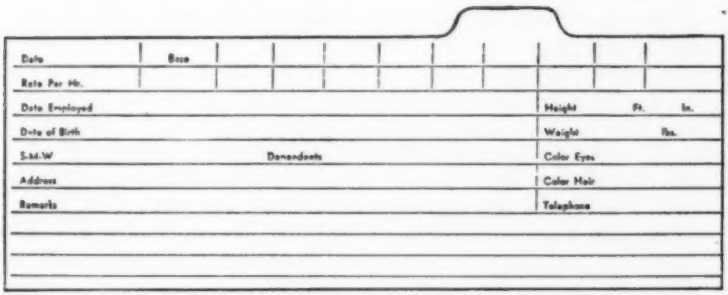


EXHIBIT 5 (REVERSE)

calculating the net payroll. The gross earnings shown by totaling the summarized stapled groups of daily time cards, less the totals of the various deductions, should equal the total of net payroll as per the individual pay envelopes.

It will be noted that no payroll list or book record is kept of the individual employees' earnings. This record is maintained by filing the group of stapled time cards for each individual under a file similar to that used for the daily cards. However, in this case the index card is used to record the personal data of the employee on one side and the annual earnings by quarters for five years on the other side. (See Exhibit 5). These groups of stapled daily time cards are filed for a period of thirteen weeks which constitutes a quarter. The thirteen groups of tickets are removed at the end of a quarter and gross earnings totaled. These earnings are recorded on the face of the index card. The groups of daily time cards are removed quarterly from the file, bound up and stored away for future reference. The index card is used to prepare the Federal Social Security and State Unemployment Insurance forms. After these forms have been prepared the index cards are returned to the file to complete the next quarterly cycle. The groups of daily time cards constitute the original basis of information from which the payroll is prepared; therefore, any question that might arise in connection with the Wage and Hour Law can be decided from these original cards.

It is noted that the handling of piece work has not been explained in the foregoing section. It is believed that the handling of piece work can be more fully explained under the labor distribution section.

Recording Labor Time by Jobs and Operations

The second major objective, the distribution of labor costs to the manufactured products, is now presented. Reference to Exhibit 1 will show that the labor cost distribution part of the combined daily time ticket is sub-divided into six sections by perforations and that each part is identical with the other. For the purpose of explaining how each of these sub-tickets are used, begin at the left and work to the right. The first space is captioned "Clock No." and provides for the individual's time clock or payroll number.

The purpose of recording this number is to be able to identify the sub-tickets with the payroll ticket after separation and filing.

The next space provides for recording the number of the job on which the employee is working. (It is herein presupposed that all factory orders carry a production number.) The employee should be cautioned to use utmost care in writing this job number correctly, as the future value of this ticket depends on accuracy in charging the proper job.

The next space is provided for writing the blue-print number from which the employee is working. This is quite essential, as it is from this number that the progress and location of any order part may be found.

All tools, jigs and fixtures are numbered for the purpose of control. An employee obtaining such items from the tool crib is charged with them until they are returned. From this ticket a record is kept of how many times such an item was used. In the case of jigs an approximation is made as to whether the cost of making the jig was saved through increased production.

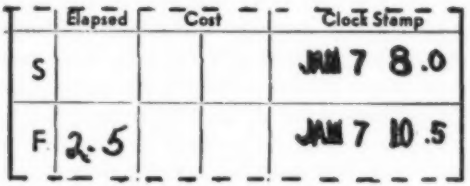
The next space which records the operation is very important. A cost study by operations often leads to short cuts in production, and this is especially true when a repeat order is received on a job that previously showed little or no profit. The production clerk must have this information in order that he may correct his production schedules for work completed.

The next space is provided for a record of the quantity completed, i.e., if an employee completed five pieces and had the sixth piece partly done, he would only report the five pieces completed. The sixth piece would be reported in production the following day. This method of handling only items fully completed may create some discussion relative to the distribution of the labor involved. However, the various factors should be considered carefully and if the time so consumed is warranted, fractional parts of items completed could be so accounted for in the original setup. No recognition is herein given to other than complete units.

Calculating Time and Cost

Up to this point the employee has recorded all the essential basic information necessary to properly identify the job he is working upon. If Exhibit 1 is now referred to again, it will be seen that the

balance of this ticket is divided by a horizontal line into two parts as follows:



The section indicated by "clock stamp" is provided for recording the time as stamped by the job recorder; the letter "S" at the left indicates that the time stamped in this space is the starting time for this particular job and the letter "F" is the finishing time. The elapsed time between the clock stamp opposite the letter "S" and that opposite the letter "F" is calculated by subtraction of "S" from "F", which in this case is 2.5 hours, and is recorded under elapsed time opposite the letter "F". This 2.5 hours is extended by the base rate to obtain the cost which is recorded in the space provided opposite the letter "F". It should be noted that no elapsed time or cost is recorded opposite the letter "S". This space is reserved for jobs that have been worked on during overtime periods and the additional cost of the half-time paid as a premium is herein recorded. The handling of this premium paid for overtime is accumulated in the complete cost of an order but is separated and marked so that when reference is made in the future to this cost, such overtime premiums may be given due consideration.

The method of recording piece work in so far as the employee is concerned will be identical as outlined previously for time work. However, in the space provided for recording the quantity either the foreman or someone designated to check quantities will indicate his approval of the employee's count. The payroll clerk will use the space marked "elapsed" to show the piece price and the cost column to show the extension of the quantity times the piece price. No overtime will be considered under a piece price basis for the various individual jobs. However, if at the end of a week, the weekly earnings by piece work is below the total of the hours worked times the average hourly rate as computed under the Wage and Hour Law, then this difference must be adjusted. The

accounting for such differences, if they arise, is naturally dictated by company policy, and such policies must be known in order to give a practical distribution. However, the inclusion of such an item in manufacturing burden for simplicity in handling is favored in this case.

Group bonuses and other wage incentives can be handled in one of several ways. However, for the purpose of simplicity such items can be included as part of the manufacturing burden and entered on the payroll card in one of the two spaces provided under "Overtime Premium" for the week on the last day of the week, or daily if it is so desired.

An Example

For a brief review refer to Exhibit 6, which is a daily time ticket filled out and turned in for a day's record. (For the purpose of this illustration the two hours overtime will be considered as being paid for at time and one-half.)

It will be noticed that on the payroll part of this ticket the net elapsed time is ten hours which is extended under hours worked. In the overtime section there were two hours of overtime which was included in hours worked, whereas under overtime premium one hour is inserted which is half time for the two hours of overtime. Both the hours worked and the overtime premium are extended by the base rate. Opposite the total earnings are the totals of both hours worked and overtime premium.

Reference to the labor cost distribution section shows that John Jones worked on five jobs during this day (January 7). He worked on the first job #1092 from 8:00 o'clock to 10:30 o'clock, or two and one-half hours. This time extended by the base rate makes the labor cost of this job $2.50. The second, third and fourth jobs are somewhat similar to the first, whereas the fifth job has the element of overtime and its application.

The next step is the balancing of the payroll section with the labor cost distribution section. It will be noticed that the hours and cost have been totaled on all the job strips and that these totals correspond with the totals as set forth under total earnings on the payroll section. It should be carefully noted that these two sections must be in agreement in order to establish the accuracy of information furnished.

DAILY TIME REPORT — Form No. 5

JAN 7 8.0 | JAN 7 12.0 | JAN 7 13.0 | JAN 7 17.0 | JAN 7 18.0 | JAN 7 20.0

NAME John Jones NO. 146

REGULAR TIME: IN / OUT — OVER TIME: IN / OUT

BASE RATE 1.00 hr	HOURS	PAYROLL
HOURS WORKED	10	10 00
OVERTIME PREMIUM	1	1 00
TOTAL EARNINGS	11	11 00

Clock No.	Job No.	Blue Print No.	Tool No.	Operation	Quan.		Elapsed	Cost	Clock Stamp
146	1092	A12-6B	1046	Turret Lath	2	S			JAN 7 8.0
						F	2.5	2 50	JAN 7 10.5
146	1241	7459 C	921	Boring Mill	4	S			JAN 7 10.5
						F	1.5	1 50	JAN 7 12.0
146	693	12-456	789	Machine Lath	2	S			JAN 7 13.0
						F	1.5	1 50	JAN 7 14.5
146	982	12B21	134	Hand Grind	1	S			JAN 7 14.5
						F	2.5	2 50	JAN 7 17.0
146	1046	14269	21	Polish	9	S	1.0	1 00	JAN 7 18.0
						F	2.0	2 00	JAN 7 20.0
						S	~~1.0~~	~~11 00~~	
						F			
						S			
						F			

EXHIBIT 6

Filing Tickets by Jobs

The ticket can now be separated on the perforated lines into seven parts. The first part, or the payroll section, will be handled as outlined previously. The next five sections, or those sections used, will be filed and the section unused is discarded.

The filing of the five sections that have time distributed to a job order is as follows: A standard legal size envelope measuring 4" x 9½" with a 2" expansion is used for this purpose. The job order number and name of company together with a brief description of the part manufactured is indicated on the face of this envelope. The job tickets for the particular job are filed in their respective holders. Either upon completion of a job or upon request, the job tickets so filed are removed, sorted by operation if necessary, and totaled as to hours of elapsed time and labor costs. Care should be exercised to separate overtime premium hours and labor costs from hours worked and labor costs of hours worked.

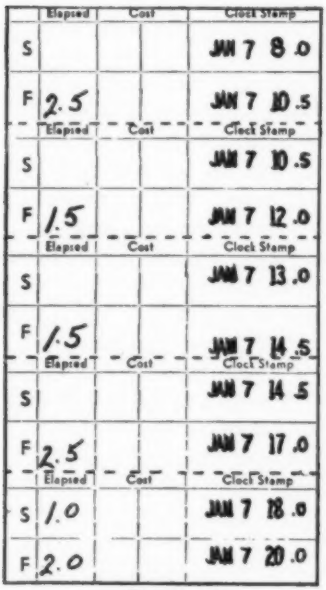


EXHIBIT 7

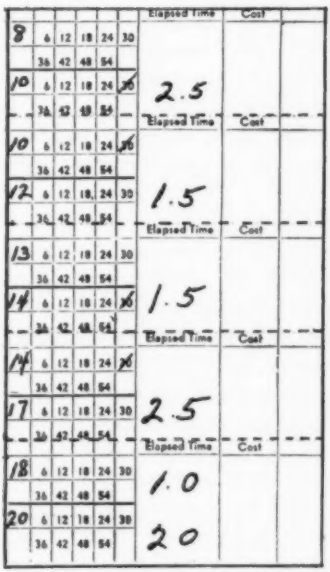


EXHIBIT 8

One is a direct cost of manufacture while the other may be considered as manufacturing burden. If the application of burden is based on hours worked or on a percentage of direct labor cost, either will be available.

Application to Small Plant

The system as outlined embraces the use of several job time recorders. It is conceivable that the application of this type of time ticket could be made in many small plants to great advantage by the use of only one job recorder stamp. This stamp would be placed near the employees' entrance and only the "in" and "out" time would be recorded automatically. The only change necessary would be to substitute the following setup of Exhibit 8 for Exhibit 7.

The hour may be inserted manually in the blank space provided at the extreme left side of Exhibit 8 and the fraction of the hour, if any, indicated by marking the nearest tenth of hour as provided by the intervals of six minutes each.

DIRECT LABOR VARIATION CONTROL

By Harry C. Nichols, Cost Accountant,

Arrow-Hart & Hegeman Electric Mfg. Co., Hartford, Conn.

THIS discussion of direct labor variation control is presented in the "how-we-do-it" style. The subject might be introduced by stating that although the methods used to control direct labor variation in our plant may not be entirely new to many cost accountants, it is this writer's opinion that certain phases of the subject have not been fully explored or analyzed as to practical application by many companies. Labor variation control is not new to this company, however. Feeling the need of more complete results, new methods were recently installed, and naturally many aspects are still in the experimental stages.

General Background of Problem

Our company is rated as one of the largest manufacturers in its own particular field. Manufactured products range from small bakelite attachment plug caps selling for 1¼ cents each to magnetic starters in explosion-proof boxes selling for $85 each. In all, approximately 17,000 different completed devices using 40,000 different parts are manufactured, each part requiring an average of three operations.

The types of machinery required to produce these products range from automatic blank and form machines used in the press room to simple fixtures used in assembly departments. To the extent practical, the shop is departmentalized, like machinery and equipment constituting separate departments. A force of approximately two hundred toolmakers is required to make and repair dies. It is indeed fortunate that most business is repetitive, making it possible to use a standard cost system. We use what might be defined as a "normal-expected" standard cost system; that is, material standards are established on a ten-year average, and labor standards on time studies. The time study department has established a time value for each operation. If the operator performs the work in a shorter time than the established time value, he is paid for the number of hours actually earned. In such cases, the

PART NO. 80283-5	DESCR. R. H. Contact	DRG. 80283-5
DATE 8-14-33 MN		LARGE SMALL

MATERIAL Half hard brass coils

SIZE .039" - .042

WIDTH 1/2"

LBS. PER M PCS 1-9/10 Lbs.

NO.	ORD	OPERATIONS	DEPT.	
1		Pierce & blank	501	Use 10108 blanking die
2		Pierce	503	T.D.10415B
3		Tap	504	T.D.10416B
4		Bright Dip	515	
		Stock #517		

REVISIONS FORM 159A								

Exhibit 1

F. 525-R-5 39 6M W. R. CO.

SIMPLE PART COST

PART NO. 80283-5

DESCRIPTION R. H. Contact

OPER. NO.	OPERATION	DEPT.	O. H. RATE	STD. HOUR	STD. HOUR	STD. HOUR	STD. HOUR	CLASS	MAT.	LABOR	O. H.	MAT.	LABOR	O. H.
1	Pierce & blank	501	.97	.099				3		05	10			
2	Pierce	503	.39	1.371				6		60	53			
3	Tap	504	.45	.486				6		21	22			
4	Bright Dip	515	.83	.003				4		01	01			
	TOTAL MFG. COST								26	87	86			
											199			

EXHIBIT 2

actual hours worked are less than the number of hours pay that the operator has earned. Throughout this paper, the term "earned hours" refers to the amount of time within which the operator must perform the work required in order to earn an incentive.

A brief description of our cost and manufacturing setup would be appropriate in order that this presentation of our problems in relation to labor variation may be clearly illustrated. The definite need for a well organized and adequate method of direct labor variation control under these conditions and in this highly competitive industry should need no further emphasis.

Operation Layout

The engineering department has complete charge of the design and maintenance of all tools, dies, etc., and prepares operation layouts for all parts manufactured, designating the operations to be performed and their sequence. Standards are figured on the basis of these layouts. These are illustrated in Exhibits 1 and 2.

Tabulating Equipment as a Necessity

Variation control in our case is based on the assumption that the best method of controlling variations is to provide analyses as such variations occur, that is, by operation. This seems a better method than attempting to control variation by the use of order numbers. It is also felt that to use order numbers in our cost system would impose additional clerical work without any corresponding advantages. To explain how this is accomplished, it will be necessary to go into detail concerning our method of time reporting and follow it through to the variation reports.

Tabulating equipment serves as the "wheel-horse" for the system, each phase of the cost work being carefully planned with systematic routines worked out. For each labor operation performed, reports showing the following information are required:

1. Employee's clock number
2. Date
3. Part number
4. Department number
5. Operation number or combination operation number
6. Production
7. Actual hours worked.

Each supervisor in the factory is supplied with job cards on which to record this information. This card is illustrated in Exhibit 3.

JOB CARD FOR FACTORY USE ONLY

PART NO.	OP. NO.	LBS.	PIECES PER LB.	TOTAL PIECES	P.W. or D.W. RATE	HRS.	AMT. EARNED
80283-5	8003			2000	.962	1 3/4	

Dept. 504 DATE 11/3/40 PAY NO. 462

EXHIBIT 3

Job cards are prepared by the supervisors and are turned over to the timekeeper each day. The actual hours appearing thereon are first verified and compared with the in-and-out clock cards. The information shown on the job cards is then copied by the timekeeper onto direct labor tabulating cards as shown in Exhibit 4.

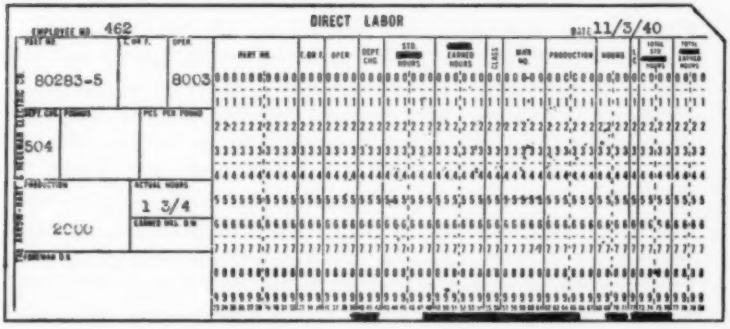


EXHIBIT 4—SALMON COLORED CARD (PIECE WORK)

One of these tabulating cards is made out for each operation performed. A manila colored card is used for piece work wherever the standard and earned hours are identical, a salmon colored card is used for piece work where the standard and earned hours differ and a yellow colored card is used for all day work. The tabulating cards are next filed in back of the correct master cards and are sent to the tabulating department for tabulation. (See Figure 5.)

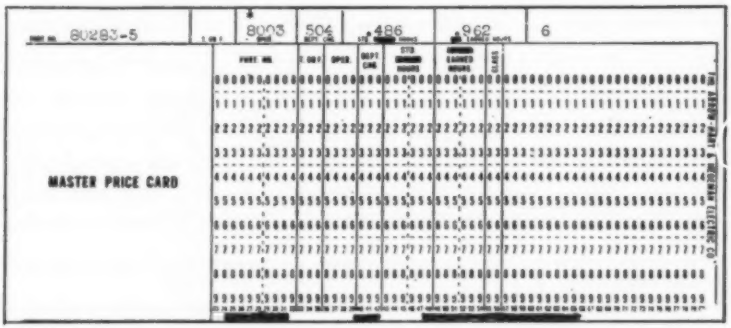


EXHIBIT 5—PURPLE TOP CARD

* Designates a temporary operation (Standard tool being repaired making a different method of tapping necessary).

All direct labor tabulating cards for operations that have no master card are sent to the cost department for standards. Each timekeeper is supplied with a complete set of these direct labor master cards, prepunched and interpreted, for all operations performed in his department. On these master cards the following information is punched: part number, operation number, standard hours per 100 pieces, earned hours per 100 pieces, and class of labor. All direct labor is classified and each class has its own base rate and designating number. These master cards are also separated into two divisions. A purple top card is used to indicate that a variation exists between standard hours per 100 pieces and earned hours per 100 pieces. A buff top card is used when the standard hours per 100 pieces and earned hours per 100 pieces are identical.

Tabulating Department Procedure

After the cards reach the tabulating department, they are first put through a reproducing machine. This machine automatically punches the part number, operation number, department number, standard hours per 100 pieces, earned hours per 100 pieces and class of labor from the master cards onto the tabulating cards. At this point the master cards have served their purpose and are returned to the timekeeper to be used, if necessary, for the next day's time. The production, actual hours, and either day or piece work, as designated, is then key-punched by hand onto the tabulating cards. The next step is to run the piece work cards through the multiplying machine and extend the cards for total earned time. In cases of day work, the total earned time is calculated by the timekeeper and the card is key-punched by hand. The cards are next separated by color. The manila cards (piece work) on which 90 per cent of the time is reported, need not be re-run as the standard and actual are identical. However, the salmon cards (piece work where standard and actual do not agree) and yellow cards (day work) whose color indicates a variation between standard and actual must be extended for total standard time. The totals are determined by multiplying standard and earned hours per 100 pieces by the production. The advantage of the different colored cards is readily apparent. Multiplying time is cut almost in half and the number of cards which would otherwise have to be analyzed for labor variation are reduced 90 per cent.

End of Week Procedure

Up to this point, the same procedure is followed daily. Each day's labor cards are allowed to accumulate until the end of the week. At the end of the week, all direct labor cards are sorted according to employee number and put through a summary punch machine. This machine automatically punches a payroll summary card, shown as Exhibit 6, for the total week's time of each employee.

The summary cards now furnish the following information: employee number, class of labor which determines employee's base rate, and total earned hours. They are next sorted by class of labor and put through the reproducer, using master base rate cards

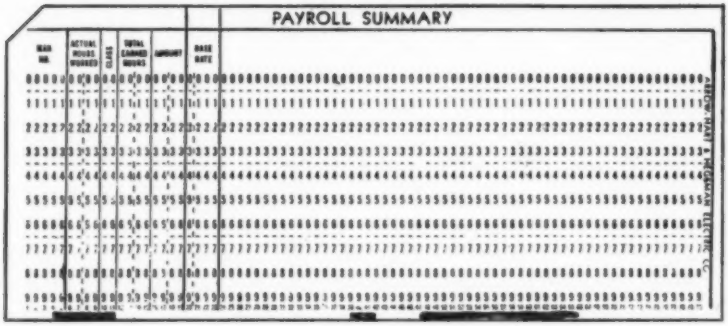


EXHIBIT 6—ORANGE COLORED CARD

to punch the correct base rate onto the summary cards. The last step is to run the summary cards through the tabulating printer which multiplies the total earned hours by the class base rate, punches this information onto the summary cards, and at the same time prints the total week's wages on a tabulated run. The payroll sheets are posted by hand from this run.

After the direct labor cards have been summarized, it is possible to obtain a variety of other information by making various tabulations. Several tabulations are made regularly, such as the weekly payroll distribution which gives esential information for analysis of variations, piece work ratio, take-out by department and other reports. Exhibits 7, 8 and 9 are illustrative reports on direct labor variances.

Analysis and Determination of Causes for Variation

If we are to make an intelligent study of direct labor variations, we must first analyze the causes. In our analysis of the main causes in our own plant, we have found them to be:

1. SPECIAL AND REPAIR OPERATIONS:—There is a great deal that the cost accountant can do in providing special analyses covering operations in order to make information available to foremen in the factory. By assigning special operation numbers designating the various types of special and repair operations, it is a comparatively simple task to supply the foreman of any department with

EXHIBIT 7

DIRECT LABOR VARIATION
EXECUTIVE REPORT

Dept.	*Description*	*Day Work*	*Piece Work*	*Total*	*Ratio of Variation to Std. Labor*
501	Blanking	$ 51.10	4.52	55.62	9.0%
502	Forming	43.40	5.92	49.32	4.5%
503	Foot Press	92.38	53.49	145.87	21.9%
504	Tapping	49.40	72.70	122.10	11.5%
505	Auto. Blank	7.20	2.04*	5.16	1.0%
506	Screw Shell	4.50	.28*	4.22	12.3%
507	Hand Milling	36.20	2.46	38.66	12.4%
508	Spring	7.80	1.93	9.73	7.7%
509	Hand Screw	12.40	..	12.40	2.8%
510	Auto. Screw	120.68	..	120.68	24.8%
511	Bakelite Press.	14.05	42.01*	27.96	2.8%*
512	Plastic Bench	15.20	17.80	33.00	2.7%
513	Comp. Press	12.10	2.66	14.76	10.7%
514	Plating	3.40	140.81	144.21	11.2%
515	Box and Pack	5.02	41.60	46.62	3.1%
517	Asm.—Regular ...	383.40	4.20*	379.20	5.8%
518	Asm.—Attach.	56.00	16.00	72.00	5.2%
519	Asm.—Heater	120.10	87.00	207.10	19.7%
520	Plating—South ...	160.00	12.60*	147.40	14.1%
521	Carton Making	41.00	2.98	43.98	11.3%
522	Rotary Machine....	.....	.....	.....	....
523	Asm.—Canopy	226.60	94.00*	132.60	12.5%
524	Plate Making	3.40*	15.00	11.60	4.5%
525	Hardening	6.00	..	6.00	5.1%
526	Foot Press #2	8.49	16.20	24.69	4.1%
527	Asm.—Cap	12.30	10.90	23.20	5.1%
528	Asm.—#1	36.05	11.23	47.28	7.2%
534	Plate Packing	19.80	5.76*	14.04	5.7%
535	Asm.—#2	52.20	23.00*	29.20	.9%
536	Hannifin Press ...	2.47	68.60*	66.13*	5.3%*
537	Asm.—#3	13.20	19.40	32.60	9.7%
538	Power Press #2 ..	1.20	7.80	9.00	6.9%
539	Asm.—#4	6.30	28.00	34.30	22.3%
540	Asm.—Appliance ..	12.10	14.80	26.90	11.0%
541	Asm.—#5	148.00	3.20	151.20	25.2%
		$1,776.64	323.91	2,100.55	6.5%

* Credit Variation
Note: Hypothetical figures used for purpose of illustration.

EXHIBIT 8

DIRECT LABOR VARIATION
FOREMAN'S REPORT—DEPT. 504

Class of Variation	*Description*	*Day Work*	*Piece Work*	*Total*	*Ratio of Variation to Std. Labor*
..	Day Work*	$29.20	$ ..	$ 29.20	2.8%
1	Miscellaneous	8.20	6.10	14.30	1.3%
8	Temporary	2.10	39.50	41.60	3.9%
9	Repair	2.60	24.80	27.40	2.6%
	Totals	$42.10	$70.40	$112.50	10.6%

* Time values not met.
Note: Hypothetical figures used for purpose of illustration.

EXHIBIT 9

DIRECT LABOR VARIATION
TIME STUDY DEPT. REPORT—CLASS 6
Day Work—(No time values established)

Dept.	*Description*	*Amount*	*Ratio of Variation to Std. Labor*
501	Blanking	6.15	.5%
502	Forming	5.20	.6%
503	Foot Press	32.50	3.1%
504	Tapping	7.30	.7%
505	Auto. Blank	1.85	.2%
506	Screw Shell	..	..
507	Hand Milling	12.35	2.3%
508	Spring	1.15	4.6%
509	Hand Screw	..	..
510	Auto. Screw	..	..
511	Bakelite Press.	3.40	.2%
512	Plastic Bench	12.20	2.3%
513	Comp. Press	8.10	9.6%
514	Plating	..	..
515	Box and Pack	2.30	.2%
517	Asm.—Regular	68.00	3.0%
518	Asm.—Attach.	32.10	4.1%
520	Plating—South	63.00	5.9%
521	Carton Making	13.40	1.3%
522	Rotary Machine	16.25	4.6%
523	Asm.—Canopy	..	..
524	Plate Making	22.40	2.1%
525	Hardening	..	..
526	Foot Press #2	..	..
527	Asm.—Cap	4.20	1.4%
528	Asm.—#1	26.00	6.1%
534	Plate Packing	9.80	3.2%
535	Asm.—#2	23.50	.6%
536	Hannifin Press	..	..
537	Asm.—#3	3.60	1.6%
538	Power Press #2	8.30	3.1%
539	Asm.—#4	23.40	5.0%
540	Asm.—Appliance	12.40	2.1%
541	Asm.—#5	8.35	1.3%
	Totals	427.20	1.3%

Note: Hypothetical figures used for purpose of illustration.

a report covering his department at any time. These operations are generally temporary and are performed because of one of the following conditions:

a. Standard machine not available.
b. Standard tool being repaired.
c. Standard part not available.
d. Material not standard.
e. Engineering or design change.
f. Salvage or repair due to fault of operator.
g. Salvage or repair due to improper setup.
h. Salvage or repair due to faulty material.

2. ADDED OPERATIONS:—These operations cause the most headaches and in most cases create a problem as to whether they should be picked up in costs as standard operations or allowed to remain as a variation until they can be eliminated, if ever.

It might be pointed out here that picking up variation by operation in these cases has a distinct advantage over other methods. As stated before, all operations with no master cards (added operations would naturally fall in this category) are sent to the cost department for standards. If the operation is shown on the cost card, the correct standard is written on the master card and the card sent to the tabulating department. If the operation does not appear on the cost card, the engineering layout is checked to determine whether or not the operation has been added as a standard operation. If it has not, the card is returned to the factory for investigation.

3. OPERATIONS PERFORMED DAY WORK BECAUSE OF SMALL VOLUME:—Operations that normally would be performed on a piece-work basis by female labor, but are performed on a day-work basis by more expensive male labor, cause another entirely different kind of problem. This type of variation is caused by numerous orders calling for small quantities. Instead of using a group to assemble orders of this kind, one operator completely assembles the device. This type of variation is very hard to control, but by using a special operation number for this condition it is possible to make a report to the foreman covering this condition, giving him a basis

to check repetitive items and determine whether orders could be obtained making group assembly possible.

4. STANDARDS OUT OF LINE:—In checking variation it is often apparent that standards are out of line with actual conditions, caused mainly by changes in design or changes in assembly methods. In many cases it is possible to refigure the devices affected and eliminate this type of variation.

5. LOW PIECE-WORK RATIO:—The most effective method we have of lowering our variation is to strive for a high piece-work ratio, that is, the ratio of piece work to standard labor. This is accomplished by having tabulations made of all day work and analyzing each operation for the cause. A great deal of progress can be made by following this up by conferences with the departmental foreman concerned.

Elimination or Reduction of Variations

Following analyses of the causes of variations, the next move is to see what can be done to eliminate or, at least, to substantially reduce this type of loss. Proper classification of all variations reflected by "purple top" master cards produce effective results. If variations are properly classified, they can be segregated according to cause, making it possible to handle each type in the best possible manner. For instance, if a customer orders a standard device, but demands special testing or gauging of the device to meet certain specifications not included in the standard cost, these extra operations are not really a variation but should be withdrawn from the variation account and charged to cost of sales.

Responsibility for the various types of variations can also be assigned. However, it is often unfair to charge a foreman with the total variation occurring in his department when he can actually control only a certain portion of it. By so doing, the incentive for better supervision is actually destroyed. This situation can be corrected or obviated in part by charging the foreman with only the amount over which he has some control. For instance, a device requires wire leads, which are cut off to different lengths and, in some cases, stripped on both ends. Until recently this work has been done exclusively on hand operated machines. The average cost for performing the three operations separately by this method

is $2.30 per 100 devices. However, in the past year an automatic machine has been installed that can do all three operations for 24¢ per 100 devices. The hitch is that the cost of setup is great enough to offset any direct labor savings made on small orders. Consequently, large orders are now done on the automatic and small orders by hand. This creates a problem on this line of products, especially where the danger of obsolescence makes it impractical to carry any stock. If the original order is for a large amount, the standard cost is set up on the basis of the automatic stripping. On small repeating orders we would naturally show a high loss variation. On the other hand, when the original order is for a small amount and the standard cost is set up on that basis, a high credit variation would occur whenever repeating orders were large enough to be done on the automatic.

Treatment of variations in total is inadequate, as variations that otherwise should stand out are buried and a true reflection is impossible. On the other hand, by proper analysis and classification, the foreman is charged only with the variation over which he has some control.

Daily Pre-examination of "Purple Top" Cards by Foremen

As it would be impossible for the men available in the cost department to analyze the total variation in the plant daily, each timekeeper pulls out all the purple top master cards used for the previous day's time, that are not already classified. These cards are turned over to the foreman to be analyzed for cause. This gives the foreman an excellent opportunity to eliminate the cause immediately, and if for any reason he is unable to do so, he is asked to write a brief explanation on the back of the cards. These cards are then sent to the cost department for classification of the variations. It has been found that by assigning a digit from 1 to 9 inclusive and having this digit punched in the first column of the operation number (see Exhibit 5) we can readily classify any condition that might cause variations in any particular department.

Classification of Variations

In the classification of variations, six general classifications are used for the plant as a whole, namely:

1000—MISCELLANEOUS:—This classification is used in all cases where it is considered impractical to code the particular cause of the variation. Periodically, these cards are pulled and analyzed again for cause. Often it is possible to cancel the operation or to reclassify it into some other category. Care must be taken not to use this classification as a general dumping ground.

5000—OPERATIONS CHARGEABLE TO COST OF SALES:—This classification covers conditions previously mentioned, that is: special operations performed on standard devices to meet customer specifications. These amounts are withdrawn from the variation account and charged to the individual cost schedule of the device affected.

6000—OPERATIONS PERFORMED DAY WORK BECAUSE TIME VALUES HAVE NOT BEEN ESTABLISHED:—This classification is set up to give the time study department a check on what operations are not time-studied and to what extent. If the volume on any particular operation is high enough, a time study is made. This is one of the best ways of keeping a high piece-work ratio.

7000—COSTS TO BE REFIGURED:—This variation, when withdrawn from the foreman's account, eliminates the old alibi of standards not being up to date.

8000—TEMPORARY OPERATIONS:—This title is self-explanatory.

9000—REPAIR AND SALVAGE OPERATIONS:—This title is also self-explanatory.

Three other classifications (2000, 3000, 4000) are available to be used for individual departments to take care of any other variation peculiar to those departments.

In conclusion, it can be stated that foremen are becoming "variation-conscious" and are showing considerably greater interest in the variations of their own particular departments. This makes all the difference in the world, for, without their support, "variation control" becomes just a figure of speech.

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N. A. C. A. BULLETIN

Vol. XXII, No. 15 April 1, 1941

IN TWO SECTIONS

Section II

N.A.C.A. LIBRARY

FORUM SECTION

Convention News

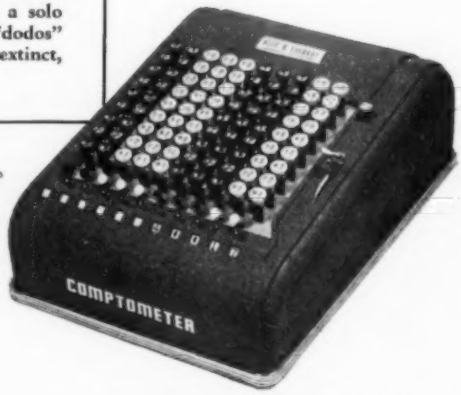
This Bulletin is published semi-monthly by the
National Association of Cost Accountants,
385 Madison Avenue, New York City

To an Army pilot, "DODO" means a cadet who hasn't soloed

In the jargon of Army flying men, cadets who haven't yet made a solo flight are called "dodos" —after the large, extinct, non-flying bird.

To a business man,

"COMPTOMETER ECONOMY" means FIGURES WHILE THEY'RE "HOT!"



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ADDING - CALCULATING MACHINES

N. A. C. A. ACTIVITIES
AND THE MEN IN CHARGE

This is the sixth in a series of articles devoted to a description of the several departments through which N. A. C. A. activities are directed. Each month one of the directors in charge of a department describes the work of his department and its relation to the other activities which make up N. A. C. A. This section of the Bulletin has been instituted in order that members might become better acquainted with the way in which these departments operate and at the same time come to know better the directors in charge. This month, William J. Carroll outlines the functions of one of the newer departments.

THE DEPARTMENT OF PROGRAM

Of the various member services rendered by our Association, the two which have the most universal appeal are publications and chapter meetings. Unlike the publications activity which is carried on through a single Department of Publications, chapter meetings involve the cooperation—both in the chapters and in the national organization—of three departments: Meetings, Program and Member Attendance. As Charlie Tucker has pointed out in an earlier report in this series, the Department of Meetings is the "props" department, concerned with the physical arrangements for chapter meetings. The Department of Member Attendance may be thought of as the promotion side of the chapter meetings activity, concerned with promoting attendance at chapter meetings. The Department of Program has two responsibilities: planning the annual program as to topics, and securing qualified speakers to present the subjects selected. Naturally, this activity must be carried on largely by the individual chapters. The chapter Director of Program reports to the National Director in charge of Program, who serves as an advisor, co-ordinator and a clearing house for ideas on program planning and speaker selection.

I wonder whether the chapter member who has not served on his chapter board fully appreciates the amount of thought, time and effort which goes into the preparation of the annual program for his chapter. During the summer months the chapter boards meet regularly twice each month, devoting a large part of each meeting to the planning of the chapter program for the coming year. Often much of the spade work has already been done before these summer board meetings start. In many chapters the program directors, after completing the program for the current year, give their attention to the preliminary development of the following year's program. In recent years they have been assisted in this preliminary planning by the adoption of the practice of exchanging chapter programs and meeting notices. All chapters send copies of their annual program and meeting notices to

National Headquarters where they are assembled and complete sets are mailed to each chapter. With this information on what other chapters have done in preparing programs and a knowledge of the particular interests and needs of the members of the local chapter, the Director of Program is in a position to draft a preliminary program outline for his successor. This provides a starting point for the new Program Director and chapter board in their consideration of program plans.

Experience has indicated that it is impossible to develop a standard program which can be used by all chapters. Local conditions need to be considered. But in his capacity of advisor to chapter program directors, the National Director in charge has found it possible to develop certain general principles which need to be considered in the development of a successful program. Such matters as the area from which topics should be selected, the importance of selecting topics first and speakers afterward, the value of the unified versus the diversified type of program, the question of local versus out-of-town speakers, and suggestions on various types of meetings are subjects on which a considerable mass of experience has been accumulated and on which the Director in charge advises the chapter directors. As conditions render particular topics of special interest or new ideas on types of meetings are developed, the Director in charge communicates these new developments to the chapter program directors. During the past year, as an example, the attention of the chapters was directed toward the desirability of considering the subject of "Accounting for Government Contracts" as a topic for a special meeting. More recently the chapters were informed of the way in which one chapter successfully conducted a "Quiz Bee" type of program.

The development of the annual program is one of the most important functions of each chapter board of directors. The chapter director of program accepts chief responsibility for the successful carrying through of this assignment, with the entire board providing assistance and co-operation. Through the National Director in charge of Program the accumulated experience of all the chapters is made available, and through him new ideas and improved methods are constantly being referred to the chapters and incorporated in chapter programs. Thus through co-operation and co-ordination we constantly work for the best in chapter programs.

WILLIAM J. CARROLL,
National Director in charge of Program.

WILLIAM J. CARROLL

National Director in charge of Program

Our National Director in charge of Program got an early start on his cost accounting career. Following his graduation from Fitzgerald Business College in Schenectady he joined the Cost Department of General Electric Co. as payroll and cost clerk, but two years later temporarily deserted cost accounting to become associated with his father in the hotel business. Returning to his chosen field in 1915, he became associated with the Aberthaw Construction Co. of Boston, for whom he did cost research work and acted as Assistant to the Job Superintendent. The next nine years were spent with the Driggs Ordnance and Engineering Co. of New Haven as Office Manager and Assistant Treasurer. Mr. Carroll became affiliated with his present company, Sargent and Co., in 1926, and is at present serving as their Plant and Assistant Controller.

Like most of the members of the National Board, Bill Carroll is thoroughly familiar with chapter operations. Appointed Director of Meetings of the New Haven Chapter for the 1931-32 chapter year, he subsequently served for two years as chapter Secretary and two years as Vice President prior to his election to the Presidency of the Chapter in 1936. Mr. Carroll was elected to the National Board in 1939 and appointed National Director in charge of Program at the beginning of the current year.

TODAY'S INCREASING DEMAND FOR ACCOUNTANTS

By Robert D. Gracey, Personnel Manager, Price, Waterhouse & Co., New York, N. Y.

Six months ago it was practically impossible for an accountant (whether public, private, cost or general) to secure a new permanent position if he happened to be over 35 or 40 years of age—calculated from his *actual* birthday. Then came the draft. Today, it is not at all unusual to receive specifications regarding an accounting position in approximately the following terms:

> Assistant controllership; permanent
> Cost and general accounting experience required (preferably some public experience as well)
> Good personality; executive ability
> Salary $4,200 per annum
> *Age—Open*

One reason for the change is, of course, that vacancies are now created almost daily as a result of men in the 21-35 class being drafted for Army service. Another factor is the sudden expansion of manufacturing plants in various lines of business all over the country. The combination of staff depletion and business expansion makes it imperative to build up accounting departments on short notice; hence men of mature experience are now in demand.

For some months past the United States Government has been searching for suitable candidates to fill accounting and auditing positions paying salaries upwards from $2,600 per annum. In New York City at least—and probably in all of the larger cities throughout the country—employment agencies have literally hundreds of unfilled calls for men with accounting background. In other words, *today* the supply of suitable applicants falls far short of meeting the demand for trained accountants.

My observation is that no man or woman need be among the unemployed under present conditions if he or she possesses an aptitude for accounting in any of its various branches, supplemented by:

1. At least a high school *education* or equivalent.
2. Some technical *training* in the fundamentals of accounting and auditing.

Every accountant is interested in the opportunities for employment in the accounting field—either as a prospective employer, a prospective employee, or as an advisor to those seeking employment in this field. Recent months have witnessed important changes in the demand for accountants. Probably no one is better qualified to report these changes and their significance than Robert D. Gracey, who, as Personnel Manager for Price, Waterhouse & Co. in New York City, is in constant touch with both the demand and supply side of the picture. Mr. Gracey has been engaged in public accounting for the last 27 years, the last 24 of which have been spent with Price, Waterhouse & Co. He is a lecturer at Columbia University on "Public Accounting Practice" and last April served as Chairman of the Columbia University Occupational Conference.

3. Several years of accounting or bookkeping *experience* in two or more lines of business.
4. Fair *health.*
5. A reasonably good *appearance.*
6. An unoffensive *personality.*
7. *Dependability.*

I have deliberately stated minimum specifications. If some unemployed accountant who happens to be reading this article has abundantly more than a mere minimum to offer a prospective employer, so much the better. However, just in case a few of my readers may concede that they are below the minimum requirements in one or more points, I propose discussing each of the foregoing "supplements" rather frankly on the basis of everyday actual experience in dealing with thousands of applicants.

Education

The man who has not had the advantage of at least a high school education or its equivalent may, through no fault of his own, find it necessary to be satisfied with some line of work that requires less mental skill and effort than accounting. On the other hand, men who have spent their spare time in idleness or in amusing themselves, rather than in making up deficiencies in their education, have surely no good reason to complain if they do not now qualify for positions in which a certain minimum of education is a prerequisite. Perhaps the disqualifying factor is actually not so much a question of what such persons do not know as compared with others: it is rather that careless attitude, that mental laziness, that fogginess of thought, that dullness of interest, that unreliability which the evading of mental discipline over a period of years has produced. Why should a progressive employer be expected to burden his organization with such material, even on a temporary basis, while there are still some mentally alert, dependable applicants available?

A still greater handicap in position-seeking than the lack of education is the *pretense* of having had an education. During my experience in personnel work I have come across a surprisingly large number of cases in which applicants have misrepresented themselves to be the possessors of B.S. or other college degrees. The applicant's uneasy manner, a slight confusion of dates on his application form, or even a simple slip in conversation generally betrays him. It is not usually difficult to determine the actual facts in such cases when there is ground for suspicion. How can such a man expect a careful employer to engage him for work that demands honesty and accuracy?

Admittedly there are a few capable accountants who do not have much to display in the way of educational background when it comes to furnishing data on an application form. Happily, however, a skilled interviewer will be sure to recognize these exceptional cases of men who are entitled to be classed among the "self-educated." Some years ago the American Institute of Accountants issued a little pamphlet based on the statement

that "Accountancy is a Career for Educated Men." That statement is still true. In fact, each decade sees so many improvements in accounting standards and procedures, that only an educated person can hope to keep abreast of the constant changes.

Training

In this country training in accounting and auditing theory and practice is generally acquired prior to an applicant's offering himself for a bookkeeping or accounting position. With business so complicated as it is in many lines today, it is only reasonable to expect that candidates for positions having to do with the recording of business transactions will have equipped themselves with a certain minimum of training.

Satisfied that they have adequate training for their present duties, too many men depend almost exclusively upon what they learn of accounting during business hours to fit them for greater responsibilities. How often a plant accountant, for instance, who for, say, ten or fifteen years has handled much the same kind of transactions day after day, suddenly finds himself without a job! Though thoroughly trained and efficient in his own narrow field of accounting, he is bewildered when called upon to prove his qualifications to tackle a new job which requires a knowledge of present-day methods of handling a large volume of accounts receivable, of pricing inventories, of determining accrued liabilities, or of classifying income and expense items. He is probably forced either to wait until a position approximately duplicating his previous one comes to his attention or else, if he can afford to do so, take immediate steps to broaden his training.

I have taken the case of a plant accountant at random. I might have cited similar cases which have come to my knowledge: cases, for instance, of capable bank accountants, of men skilled exclusively in stock brokerage accounts, of cost accountants whose duties have been confined for years to the determination of the cost of a single product among the many of a large manufacturer. The answer is approximately the same in each case—insufficient training. Men in this plight today have, under present conditions, an unusual opportunity to re-establish themselves.

Training is imperative in accounting. Fortunately it is today within the reach of all who really desire it and are willing to pay the price. For those who cannot afford to go to college during the day there are the evening schools; for those who for any reason cannot or prefer not to attend classes there are excellent correspondence courses available; and, if even the comparatively small cost of such training is prohibitive, there are still those to whom one may turn for advice as to what textbooks should be read, and in what sequence.

Certain universities are fortunate in having accounting and auditing laboratories containing the actual records (ledgers, cash books, journals, customers' statements, vendors' invoices, trial balances, paid checks, bank reconciliations, etc.) of defunct companies. Students are given an opportunity to carry out assignments which involve the handling of these records,

just as they would be required to do in business. This method of training has clearly a decided advantage over discussion of textbook material only, or even over the carrying out of similar assignments in connection with books and supporting documents which have been devised and printed as practice sets. Yet, after all, the benefit derived from training does not depend so much upon the perfection of the equipment employed as upon the aptitude, mental calibre and application of the trainee.

Progressive employers have long since recognized staff training to be of great importance and have therefore established training programs within their own organizations. The accountant who is or who has been a member of one of these organizations may consider himself fortunate and should take full advantage of the opportunities thus afforded.

Experience

Suppose we have three accountants of about the same age, the same educational background, and approximately the same technical training, all of whom are at present unemployed or seeking a change. They file their respective applications with a first-class airplane manufacturing concern for a position as assistant controller. Condensed for comparative purposes, these applications show them to have had experience during the past fifteen years as follows:

CASE "A"

Period employed		*Nature of Business*	*Position Held*	*Reasons for Leaving*
From	*To*			
Jan. '26	Jan. '41	Chemical mfg.	Chief Accountant	Limited prospects

CASE "B"

Jan. '26	May '31	Public acctg.	Senior Accountant	Dislike traveling
June '31	Nov. '31	Furniture mfg.	Cost Accountant	Disagreement
Jan. '32	Feb. '41	Automobile mfg.	{ Asst. Treasurer { Controller	(Still employed)

CASE "C"

Jan. '26	May '27	Airplane mfg.	Cost Clerk	Poor prospects
June '27	Nov. '27	Retail candies	Salesman	Commission inadequate
Nov. '27	Mar. '29	Banking	Bookkeeper	To accept better offer
May '29	Apr. '30	Stock brokers	Customers' man	Unethical practices
Aug. '30	Dec. '30	Stationery	Salesman	Territory divided
May '31	Feb. '32	Hotel	Bookkeeper	To set up own business
Feb. '32	May '32	Window shades	Owner	Business sold
July '32	Oct. '34	Airplane mfg.	Cost Accountant	To accept better offer
Oct. '34	Jan. '38	Public utility	Asst. bookkeeper	Internal politics
July '38	Nov. '38	Stationery	Stock clerk	General reduction
Feb. '39	Oct. '40	Wholesale hdwe.	Stock clerk	To seek better position

Ignoring for the moment considerations of health, appearance and personality of the above applicants, which do you reckon is the most likely to be chosen? Mr. "B" of course; and for obvious reasons. Pages of interesting comments might be written regarding the other cases, but a word or two will suffice for present purposes:

> Mr. "A" has quite evidently been too long finding out that his prospects were limited. Moreover his experience has been all of one kind and not related to airplane manufacture.
>
> Mr. "C" is evidently a drifter or worse. He has apparently had several long periods of unemployment; his progress as regards the importance of positions held has been irregular; the reasons given for leaving certain of his numerous jobs (eleven in fifteen years!) do not sound altogether plausible.

The experience histories of "A" and "C" are altogether different and neither is likely to be particularly attractive to a prospective employer. Yet if each of these men will face the facts of his past squarely and will secure and follow competent advice as to how best to present his experience as a valuable and salable product, they may both conceivably find satisfactory berths under present conditions. Under conditions as they were some months ago they might have sought long and in vain.

Needless to say, I do not advocate making a change when one is already well situated. The man who now holds a reasonably good position with a reputable and moderately prosperous concern will do well to consider and reconsider carefully before deciding to make a change. An investment of five, ten, fifteen or twenty years with present employers may be an exceedingly valuable asset to a man of forty or fifty *so long as he is still in their employ;* but let him resign, and his former asset may immediately become a handicap.

For the man who is dissatisfied in his present position, the far-sighted answer to his problem may lie in adjusting himself to meet prevailing conditions or otherwise correct deficiencies, thus qualifying himself to assume greater responsibilities.

Let me illustrate by citing an actual case. A short time ago an accountant who holds a fairly good position with an A-1 industrial company appealed to me to help him find another position. Upon discovering that he had spent twelve of the most productive years of his life with this concern, I pleaded with him to reconsider carefully before resigning. He was hardly to be blamed for feeling badly because others had been promoted and he had not. He was, however, clearly at fault in view of the fact that for some years past he had not made any special effort to broaden his knowledge, develop executive ability or to increase his general confidence, poise and fluency of speech. Yet he wondered why he was repeatedly passed by when someone of outstanding ability and aggressive personality was being sought for in his organization! And, to make matters worse, he was actually considering making a jump in the dark in the hope of landing in a new position where

total strangers might prove themselves to be worthy of his services by immediately discovering his heretofore undemonstrated abilities and rewarding him accordingly.

Health

At the outset of this article I indicated that six months or so ago a man over 35 or 40 years of age was under a serious handicap when it came to securing a new position in accounting, and that now-a-days the question of age is considered of much less importance. This must not be construed to mean that an applicant's apparent physical fitness to endure the strain of the close application which accounting work invariably involves is now being entirely overlooked. It is just as important today as previously, and especially in the case of older men, that applicants give evidence of being in fairly robust health when presenting themselves for an interview. If it were not that such simple yet important details are so constantly disregarded by applicants who are otherwise willing to make heroic efforts towards securing work, I should deem it an affront to remind mature persons that, in selecting employees, employers have a right to take proper precautions against hiring those who are in a delicate, highly nervous or otherwise run-down condition of health. Here again is a situation that may be corrected if intelligent measures are taken. Ofttimes the answer is nothing more than proper rest or the refraining from some kind of indulgence. And what a difference vigorous health will make in a man's appearance, as well as in his attitude towards new undertakings!

Appearance

Nearly every personnel manager has his own pet set of questions which he answers (either mentally or on an interview form) with regard to an applicant's personal appearance. One may provide for the answer in some such rating scale as:

☐ Excellent ☐ Good ☐ Fair ☐ Poor ☐ Remarks ————

another:

——Dissipated ——Coarse ——Repulsive ——Ordinary ——Refined

There are countless variations.

Some interviewers may distinguish between personal appearance (facial expression, condition of hair, teeth, fingernails, etc.) and dress (as to neatness, style, conservativeness, grooming, etc.). However, what is of interest here is that when all the varieties of rating schemes are reduced to a common base they will be found to measure, more or less accurately, a factor which is generally of considerable importance in determining which of two otherwise equally qualified applicants will be employed. You may not be able to do a great deal about flaws in past training and past experience. But make a serious effort and see what wonders can be wrought in improving

your personal appearance at small expense and with a little intelligent effort.

Prospective employees who may meet all the required technical and experience qualifications may wonder at times why they are passed by when men of their abilities are as scarce as they are today. In all probability the answer lies in defects in personal appearance or in one or other of the factors which we are about to consider, viz., personality and dependability.

Personality

Much has been said and written of late on the subject of personality. I hesitate to reiterate. Yet we may as well face the fact that there are accountants today unemployed although they are admittedly well educated, well trained men whose business experience has been fairly continuous and well balanced, and who are in reasonably good health. They cannot seem to get a position even in today's market. I am not suggesting that a prerequisite for an accounting position is generally "a *pleasing* personality." I do wish to emphasize, however, that in this regard an absolute minimum is an *unoffensive* personality. This should not be too difficult to achieve.

Dependability

In referring to dependability I have especially in mind one's reputation for exercising good judgment, for maintaining reliable records and for producing statements from such records within the time promised or expected. An applicant for a position may not always realize that a prospective employer is almost sure to get in touch with previous employers before finally deciding to engage him. Possibly the candidate's difficulty in keeping past positions has been due to unreliability. If a prospective employer discovers this to be the case he is not likely to give the application further consideration.

Of course, an applicant's past history as to habits, morals, integrity and application to his duties may keep bobbing up to plague him. Attempts at burying such blemishes are usually fatal. A good basis for future dependability is much more likely to be established by frankly acknowledging past delinquencies.

Dependability in accounting work may involve aptitude as well as moral character. Without definite aptitude for accounting one is not likely to be able to prove himself dependable in accounting work—and through no fault of his own. Aptitude is not generally acquired nor is it generally subject to development.

Conclusion

If you are unemployed and are thoroughly convinced that accounting is your right line of work from the standpoints of aptitude, training, experience, etc., then take advantage of today's turn in the tide and secure a position. *Today there are more vacancies than there are accountants to fill them.*

QUESTIONS AND ANSWERS

The Research and Service Department at National Headquarters conducts a Question and Answer Service for the benefit of N.A.C.A. members. Practical accounting questions which cannot be answered from our research files are submitted to a number of our members for answer. The replies with names deleted are transmitted to the original inquirer. In this section of the Bulletin will be published such of these questions and answers as appear to be of general interest to our members and worthy of their consideration.

Adjustment of Burden in Woolen Industry

Question: I would like to make use of the Question and Answer Service to get information of a nature that only accountants who are conversant with trade practices in the woolen and worsted industry can furnish.

Let us assume that variable and fixed overhead have been applied to each style or individual fabric in a scientific manner that will stand the closest analysis from an accounting standpoint. My question is: "To what extent and in what manner is the known overhead juggled between fabrics or ranges so that certain fabrics are admittedly favored at the expense of others?" The reason for this arbitrary allocation may be to apply overhead in relation to total cost or to eliminate fixed overhead from in-between-season styles, in order to increase production.

Whatever the reason may be for this practice, a few remarks from fellow members concerning the manner of making these adjustments and the methods used to control the effect of such an arbitrary procedure, will be greatly appreciated.

Answer No. 1: We do not try to kid ourselves. Each fabric takes its proper burden charge, based on scientific standards, no exceptions being made. On new fabrics the costs are computed as carefully as possible, and if total cost is unfavorable to the selling price, we make adjustments where possible in the manufacturing process to reduce the cost. In other words, we do not juggle burden costs to fool only ourselves.

Answer No. 2: We are a so-called fancy woolen mill making small quantities of many styles. In estimating the cost of a fabric we do not favor any particular fabric as to distribution of the overhead items. We distribute these overhead items by operations and if the operation calls for a total cost of 2 cents, we figure this into our total cost at that price, varying the charge of 2 cents only if there is a definite saving in the cost of this particular fabric in the operation due to fast production. This would only apply on an hourly basis operation.

We do not juggle any charges between fabrics but leave the lowering of the sales price to the sales department after providing them with accurate

information on the particular cloth. In other words, we juggle our markup rather than our cost.

Answer No. 3: In my particular company, I know of no such tendency as described. Our main ranges of men's wear suitings have their selling prices fixed largely by trade competitions, everything being directed by the New York selling agents. The usual procedure is for the New York "stylers" or designing forces to furnish the mill with a "construction" or sample of a particular type and weight of suiting with instructions to develop the various number of patterns within this base type to sell at a definite set selling price. We furnish costs, of course, but mainly to control the spread of the various "fancies" or increased price patterns within each range. Under these conditions, "juggling" or adjustment of burden would have no effect on the sale price of the range of cloth.

I have known occasions where New York would tell us that a certain customer might purchase an unusually large quantity of a definite, already established range of cloth if the price were cut from 10 to 25 cents per yard in some cases. Under these circumstances, we figure the range without some of the "fixed" burden to see if we can afford the volume order. However, this might be done on any range and does not involve a penalty or premium on one range at the expense of others.

Answer No. 4: We apply overhead to all styles, both for the purposes of cost estimates and for the actual costing of sales. We attempt to stabilize the employment of our regular employees and in order to fulfill that motive, we occasionally sell fabrics at an off-price during slack seasons and there may also be occasions when this is done to increase production. However, we show our actual cost on all financial statements and reports so that we may know how much this kind of business is costing us.

For your information, during the past five years we have made very few sales where the fixed and non-variable expense have been eliminated and if any have been made, we have never gone below our out-of-pocket cost.

The 1941 Convention

Dear NACAS:

In the March 15th issue of the *Bulletin* you saw a very brief listing of the subject matter of the technical program. We have received further details from Headquarters and must say that the Program Committee showed remarkable powers of verbal self-restraint in that matter-of-fact announcement.

Arrangements for speakers are not complete as we go to press so we can't go into details about that yet, but we expect to do so in the next issue of the *Bulletin*. We can tell you, strictly on the record, that it looks as if this program is going to be as well handled as any we've ever had.

And this program is a most timely one. Now, if ever, that sadly frayed expression, "this changing world," has real meaning. The dear old world is always changing but has never done its changing at anything like the dizzy rate of today. Any industrial accountant who doesn't stop and take stock of the situation fairly frequently in the next few years is likely to find that everybody is out of step except himself.

Our technical program is going to be a stock-taking and a look into the future. It will turn up for discussion practices which were academic curiosities to most of us until the defense program came along—example, accelerated depreciation. It's going to provide an exceptional opportunity for sharing our knowledge because it covers so much ground that is practically untouched in the literature. Come along prepared to do your bit with some good questions, or better, with your own experiences to offer as answers to the other fellow's questions.

The Hotel Waldorf-Astoria

Everyone has heard of the Waldorf, where we are going to hold our convention. It has been called the "unofficial palace of New York." In the gaslit days, the Waldorf was an institution, and is no less so today, though the building is new, towering fifty stories into the air and covering a full city block. Peacock Alley, The Empire and Astor Rooms—without which the Waldorf would not be the Waldorf—have been recreated in the new Hotel, so that its famous past is by no means forgotten.

To describe the hotel would be like attempting to describe a city. It has many unusual features, however, and we can mention one or two. For example, it hasn't any basement. The yards of the New York Central Railroad spread across three blocks here, under Park Avenue and the block west of Park Avenue. That's why the Waldorf wine "cellar" is on the fifth floor.

You can drive your car right into the building, leave it there and go directly to your own quarters without passing through any of the public rooms—a nice feature when you're returning from golf or when the better half feels that she "just isn't fit to be seen."

Another little item—whether you're one who likes to play a radio in your room or one who'd like to strangle people who do, you'll be delighted to learn

that the rooms are as nearly soundproof as good acoustic engineers can make them. (Which reminds us that there are special telephone facilities in the Lobby for the hard of hearing.)

The Grand Ballroom, where we'll hold forth much of the Convention, will seat 2,000 people for dinner. Its ceiling is four stories above the floor. It is air-conditioned, has a full size, well-equipped stage and an excellent system of loud speakers. We can be sure that we'll be comfortable, able to hear well, and have worlds of room.

There are so many dining rooms in the hotel itself that we can't count them. Yet there is a chain restaurant, one of the Savarins, in the hotel building. There is a rare sort of bar—the Waldorf Bar—for men only! Of course there are other places where the ladies are most welcome.

Incidentally, while the Waldorf-Astoria is the largest hotel structure in the world it has many less rooms than some other hotels. The reason is that its rooms are big—not a "cell" among them. Despite this fact and the further one that it is the world's finest hotel, single rooms cost as little as $5.00 a day, and a room with twin beds $7.00.

Convention Costs

We are writing to your Chapter Convention Chairman very soon, giving him details about the cost of attending the Convention. We can't afford to write directly to each of you, but we certainly will send a copy of that letter to the Chapter Convention Chairman for every member who is interested. See him about it.

We'll be looking for you at the Waldorf.

Yours,
THE PUBLICITY COMMITTEE.

Chalk up the dates! June 23rd, 24th, 25th and 26th.

Employment

Men Available

Listed below is a short summary of the employment records of two of our members who are now available for employment. A complete file of men is maintained at Headquarters. Upon request, digests of the records of men available and qualified for the positions to be filled will be furnished employers.

No. 1477—INDUSTRIAL ACCOUNTANT—Age 32, married, now employed, desires a change. Experienced in cost and general accounting, financial statements, statistics and related duties. Business college graduate.

No. 1478—ACCOUNTANT AND AUDITOR—Experience includes cost accounting, general accounting, payroll methods, unemployment and social security laws, taxes, inventories. Will accept position as assistant. Age 45. Married; health good. Available for immediate employment.

Notes on Current Literature

INTRODUCTORY COST ACCOUNTING. Cecil M. Gillespie. The Ronald Press Co., 15 E. 26th St., New York, N. Y. 1941. xxii, 303 pp. $4.25.

Although this second edition presents no fundamental change in organization of material, it has been revitalized by emphasis on recent developments and an effective method of treating the subject at hand.

The increasing importance of cost accounting as a tool of management is reflected in the addition of a new lecture or chapter on expense analysis in sales organizations, which demonstrates how cost accounting can be made useful to sales executives. Illustrative reports and case questions which represent actual situations are included for discussion.

Of particular interest is the carefully tested use of flow charts and diagrams which serve in a few simple lines to clarify the relationship of the various functions of the cost accounting system. This excellent teaching device is also adapted in the problem assignments, with blank spaces for student's entries.

Problem and question material has been revised to advantage and the numerous discussion questions are both provocative and stimulating.

Notes

During the past month eight additional reports have been issued in the Federal Trade Commission's project for the collection of the annual reports from a large number of industrial corporations operating in many of the principal industries. The industries covered in the latest reports manufacture business machines and typewriters, matches, electrical machinery and apparatus, paper and pulp, firearms and ammunition, industrial chemicals, cotton textiles and canned fruits and vegetables. These Industrial Corporation Reports are available from the Federal Trade Commission, Washington, D. C.

* * * * *

The College of Engineering of the State University of Iowa has announced a three-week Summer Management Course to be held on the Campus in Iowa City from June 9 to 27, 1941. This course will deal with production planning, motion and time study, and related subjects, and is designed to appeal especially to plant managers, foremen, industrial engineers, methods and time study analysts, cost accountants and office executives.

* * * * *

The National Resources Planning Board, created by the President of the United States to assist in the program of national defense, is building a national roster of scientific and specialized personnel. The United States Civil Service Commission is co-operating with the National Resources Planning Board in this project.

The National Association of Cost Accountants has been invited to assist in the drafting of a check list of fields of specialization in accounting to be used in connection with the questionnaire sent to accountants. It is expected that copies of the questionnaire will be sent out by the government to accountants around the first of April.

CURRENT COST LITERATURE

This listing, published on the first of each month, contains all the available references to cost articles and cost material published for the most part during the past month. References are secured from periodicals received at National Headquarters, and also from the Industrial Arts Index, published by The H. W. Wilson Co., 950 University Ave., New York, N. Y.

To secure a copy of any of the publications here referred to, order direct from the publisher. Addresses of periodicals referred to will be found at the end of the references listed.

ACCOUNTING AND ACCOUNTANCY

Blume, A. L. *The Increasing Hazards in the Practice of Accountancy.* Journal of Accountancy. March, 1941, pp. 206-15.

A summary of 28 actual cases indicates an apparent trend toward extension of the accountant's liability.

Dohr, James L. *On the Understanding of Accounting.* Journal of Accountancy. March, 1941, pp. 200-05.

Criticism of existing accounting practice; specific remedies proposed to render the balance sheet more intelligible to the investor.

AUDITORS AND AUDITING

American Institute of Accountants—Committee on Auditing Procedure. *Clients' Written Representations Regarding Inventories, Liabilities and Other Matters.* Journal of Accountancy. March, 1941, pp. 221-28.

CORPORATIONS

SEC Amends Accounting Rules. Commercial and Financial Chronicle. February 8, 1941. p. 920.

DEPRECIATION, MAINTENANCE REPAIRS AND OBSOLESCENCE

Newsom, R. *Statement Re Depreciation.* American Water Works Assn. Journal. February, 1941, pp. 359-63.

Need of information about useful life of waterworks structures.

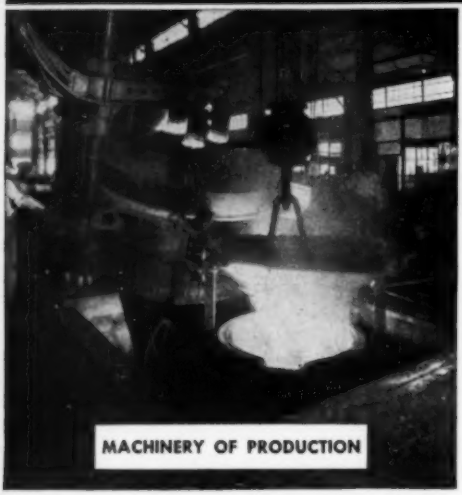
See also Public Utilities.

INVENTORIES—VALUATION

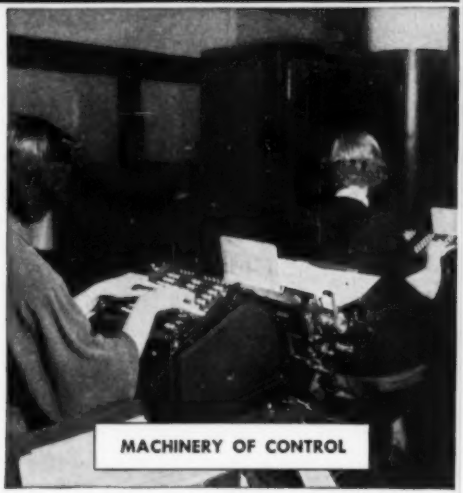
Renner, Robert R. *The Last-In, First-Out Inventory Method.* Cost and Management. February, 1941, pp. 400-05.

A brief in favor of the use of the last-in, first-out method.

VITAL TO TODAY'S PRODUCTION



MACHINERY OF PRODUCTION



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As essential as the machinery in the factory is the machinery in the office which provides executives with vital control figures, such as—

BUDGETS—Estimates, specifications and commitments that precede actual factory production.

PURCHASING—Purchase orders and vendors' records that speed delivery of parts and materials—prevent misunderstandings.

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MANAGEMENT

See Trusts.

MUNICIPAL

American Institute of Accountants—Special Committee on Governmental Accounting. *Engagement of Auditors for Governmental Bodies.* Journal of Accountancy. February, 1941, pp. 119-22.

PRICING

Bissell, Richard M. *Prices, Costs and Investment.* American Economic Review. February, 1941, pp. 200-08.

Price relationships and the method of analysis; price and cost changes and investment; cost-price changes due to changes in basic cost; cost-price changes with basic costs constant; the full effects of price changes.

PRINTING AND PUBLISHING

McDonald, W. R. *Some Aspects of Newspaper Accounting.* The Chartered Accountant in Australia. January, 1941. pp. 322-28.

Balance sheet; profit and loss account; expenditures; salaries and wages; newsprint.

PUBLIC UTILITIES

Jeynes, P. H. *Determination and Forecast of Average Service Life.* Edison Electric Institute Bulletin. January, 1941, pp. 9-13.

Plant retirement data; comparison of four methods based on the turnover principle.

TAXATION

Turner, Clarence L. *Abnormalities in Invested Capital and Income and Effect of Specific Relief Provisions of the Second Revenue Act of 1940.* Journal of Accountancy. March, 1941, pp. 229-40.

Various relief provisions in the Act, including those granting specific relief by adjustment of normal-tax net income (both for the taxable and base period years), abnormalities in special cases, and elections in filing returns in certain cases.

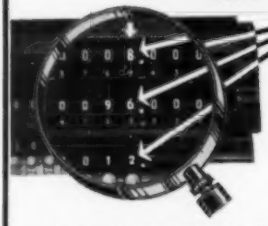
TRUSTS AND TRUSTEES

Beacon, T. H., Jr. *Management Problems of Business in Trust.* Bankers Monthly. February, 1941, pp. 177-78.

WAGES, SALARIES, FEES, ETC.

Courtney, J. L. *Group Payment on Conveyor Production.* Mechanical Handling. January, 1941, pp. 14-15.

Eliminate Double-Calculating for proof



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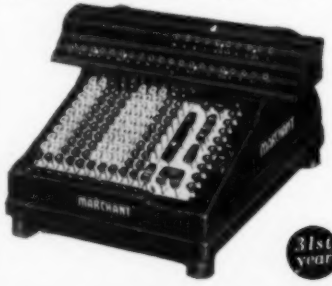

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This column is devoted to timely data useful to all Cost Accountants.

MARCHANT METHOD

DUAL MULTIPLICATION OF LONG FACTORS

Formation of two products by a single multiplication is a frequent calculating requirement. However, if the factors are large, the two products overlap in the product register unless special means are employed to prevent it.

The example below shows a method of caring for such cases.

Accumulating "Cost and Retail" in the Retail Method of Accounting

When Factors Are Large

Accumulate cost and retail of following invoice:

Quan.	*Item*	*Cost ea.*	*Sell for ea.*	*Total Cost*
1353	A	1.625	2.95	2198.63
2653	B	1.375	2.39	3647.88
				5846.51

1. Set up unit cost of item A at left of Keyboard Dial and multiply at *left* of Upper Dial by corresponding quantity.
2. Clear Keyboard Dial only and set up at its extreme right the unit retail of item A and multiply at *right* of Upper Dial by the same amount that appears at left of Upper Dial.
3. Clear Upper and Keyboard Dials and repeat steps 1 and 2 for the item B of invoice.

By proper selection of pre-set decimals the Middle Dial at left will show accumulated cost which checks vendor's invoice, and at right it will show accumulated retail of entire invoice.

ADDRESSES OF PUBLICATIONS LISTED

American Economic Review, 104 McGraw Hall, Cornell University, Ithaca, N. Y. ($1.25)

American Water Works Assn. Journal, 29 W. 39th St., New York, N. Y. (50¢)

Bankers Monthly, 111 Eighth Ave., New York, N. Y. (50¢)

Chartered Accountant in Australia, 67 York St., Sydney, New So. Wales, Australia.

Commercial & Financial Chronicle, 25 Spruce St., New York, N. Y. (35¢)

Cost and Management, 66 King St. E., Hamilton, Ont., Canada. (50¢)

Edison Electric Institute Bulletin, 420 Lexington Ave., New York, N. Y. (25¢)

Journal of Accountancy (The), 13 E. 41st St., New York, N. Y. (35¢)

Mechanical Handling, 22 Henrietta St., Covent Garden, London, W.C.2, England.

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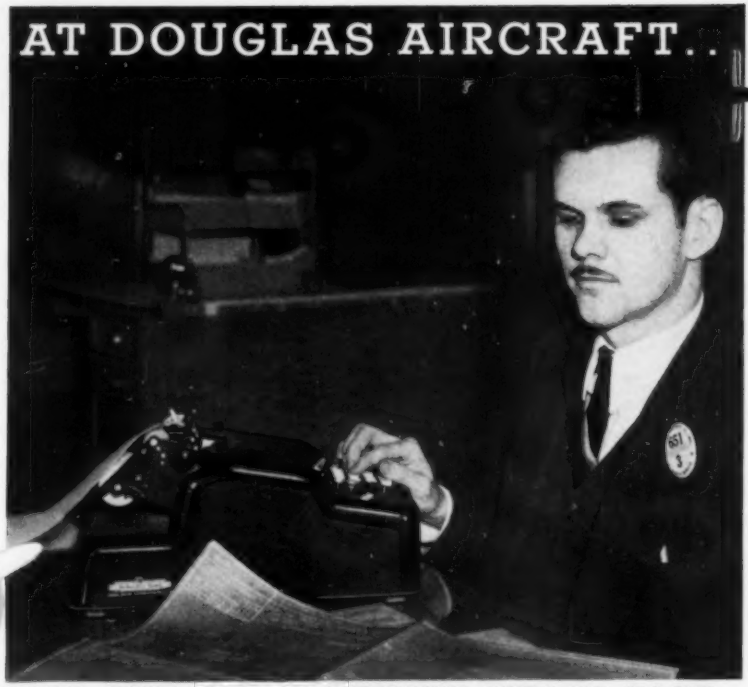
AT DOUGLAS AIRCRAFT..



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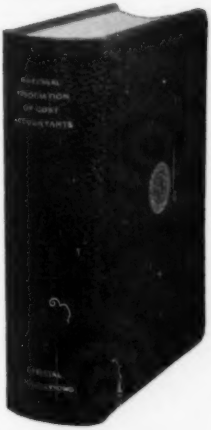

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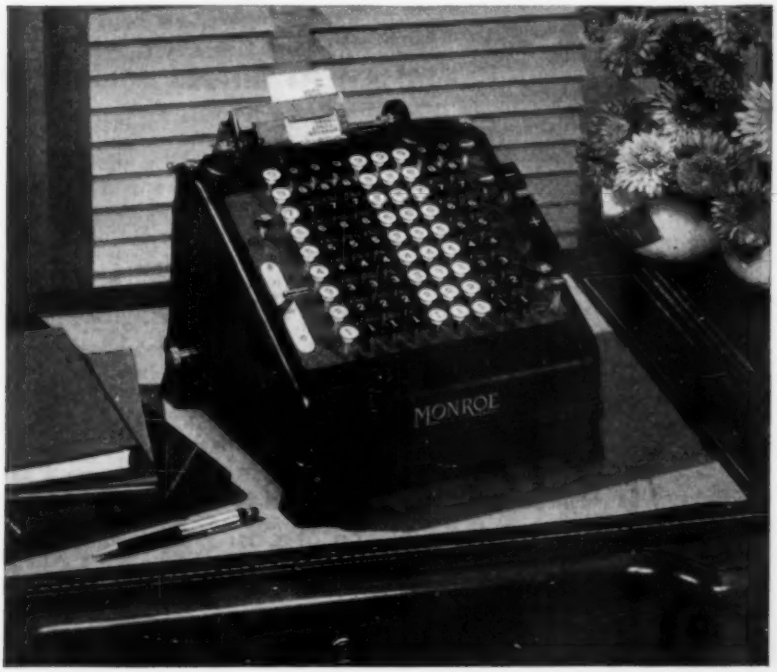

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